



Applicant interview summary

Application No:

10/801,431

Applicants:

Johnson et al.

Examiner

Jerome Jackson

Art Unit

2815

Participants:

Jerome Jackson

David A. Johnson

Date of interview:

17 March 2006

Type

Telephonic

Claims discussed

None by number.

Prior art discussed

Deshpande (US 2004/0242010 A1).

Principal proposed amendments discussed

None


Identification of principal arguments presented to the examiner

The inventor mentioned Deshpande's method does not result in inventors' structure on GaAs. Inventor mentioned that while methods well known to those skilled in the art may be used to separately produce pieces in inventors' structure, the complete structure is unique in form and application. Examiner replied that this fact would have to be made absolutely clear in inventors' response.

Other matters discussed

The examiner made it clear that if there isn't a clear distinction between the structure resulting from Deshpande's structure and inventors', original method claims would have to be included with a continuation in part. The Examiner also made it clear that a continuation in part would be necessary for any new matter included with the application.

Applicant interview participant signature

 4-21-06



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Art Unit

Participants:

Jerome Jackson

Charles W. Jurgensen

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15 March 2006

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Telephonic

Claims discussed

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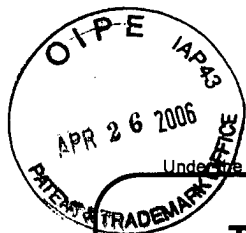
The Inventor presented background material on isolation technology in the silicon semiconductor industry. Deshpande's method is a second generation Si trench isolation method patent that uses plasma nitridation to modulate the amount of stress that forms in a subsequent thermal oxidation step. This plasma nitridation step creates a damaged semiconductor surface that must be further modified before it is suitable for device manufacturing. The inventor disclosed that thermal oxidation can cure this damage in silicon technology, but no known method can cure this damage in the case of III-V semiconductors. Moreover the exposure of the semiconductor to nitrogen ions and radicals in a nitrogen containing plasma will create silicon nitride only in the case where the semiconductor substrate is silicon. It will create GaAsN in the case of a GaAs substrate. This is a different structure made by a different process than the current invention. Moreover the structure created by the process disclosed by Deshpande would not act as an anneal cap or CMP stop and it can not be used in the production of a workable isolation structure for III-V devices. In no way did Deshpande anticipate our invention. Indeed Deshpande appears to be ignorant of the process integration issues unique to III-V semiconductors.

Other matters discussed

The examiner recommended that since our process is different than Deshpande's process we should present a continuation in part to describe the details of our process. The inventor disclosed that methods to etch GaAs and other III-V semiconductors, deposit SiN, deposit SiO₂ and to perform chemical mechanical planarization are known to those skilled in the art. The details of optimized processes to perform these steps may be disclosed in a separate process patent or in publications. The inventors do not intend to make additional disclosures until after patent protection is granted on the current invention disclosure. The examiner stressed that a patent must be enabling and again recommended a continuation in part. The inventor pointed out that the Deshpande patent fails this test with regard to III-V semiconductors because it does not enable a workable isolation scheme on III-V semiconductors. The examiner stated that intended use language has a tenuous position in patent law. The examiner returned to the page 7 intended use discussion even after he was sure that the structure was not the same. The examiner stated that use of the same structure for a different purpose (e.g. ion implant stop, anneal cap, CMP stop, structure to apply stress, structure to modulate stress formed during an oxidation process) would not be sufficient to establish patentability. The inventor again emphasized that the structure is not the same as either of the structures mentioned by the examiner, but our structure is advantageous because it simultaneously meets many process requirements. The intended use language was only included to help explain these advantages. The inventor stated that both of patents referenced by the examiner also contain intended use language so it does not appear that inclusion of intended use language is itself a reason for rejection. The examiner repeated that intended use language can not be used to establish patentability.

Applicant interview participant signature

Charles W. Sargensen 4/15/06



JFW

PTO/SB/21 (09-04)

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TRANSMITTAL FORM

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Filing Date	3/16/04
First Named Inventor	David A. Johnson
Art Unit	2811, 2815
Examiner Name	Jesse A. Venty
Attorney Docket Number	

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<div>Remarks</div> <p>Reply to second office action: 11 pages Surgensen's interview summary 3 pages Johnson's interview summary 2 pages</p>		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name			
Signature			
Printed name	David A. Johnson		
Date	4-21-06	Reg. No.	

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